

Abstract. This pilot study examines how grammatical aspect and referential form interact in Mandarin speakers’ judgments of sentenceevent matches. We test perfective *le* vs. progressive *zai* and definite (*zhe*+CL+N) vs. indefinite (*yi*+CL+N) objects in a naturalness judgment task with visually depicted events. Results show that perfective is preferred for complete events, while progressive is more acceptable for incomplete events. However, indefinite expressions are dispreferred with the progressive, suggesting that *yi*+CL+N can introduce a bounded or quantity-based construal that conflicts with ongoing interpretations. This contrasts with English, where indefinites do not show comparable effects. We argue that aspectual interpretation is shaped not only by verbal and aspectual structure, but also by the semantics of nominal expressions and their interaction with pragmatic inference.

Keywords. aspect; indefinites; non-culmination; event completion; Mandarin

1. Introduction. A central question in aspectual semantics concerns how event completion is represented and interpreted. A long-standing view holds that aspectual interpretation is compositionally derived from the interaction of verb meaning, argument structure, and grammatical aspect. In particular, incremental-theme predicates such as *eat* or *build* are typically analyzed as telic when combined with quantitatively bounded objects, yielding an interpretation that entails completion (Verkuyl 1972, 1993, 2021; Ogiela et al. 2014; Krifka 1989, 1998). On this view, the compatibility between linguistic descriptions and event completion should follow from these compositional ingredients.

However, data from Mandarin Chinese have long challenged this expectation. Speakers often accept telic descriptions in contexts where the event is not fully completed, giving rise to the so-called non-culmination effect (e.g., Tai 1984; Lin 2004; Zhang 2018; Martin 2019). One typical example is shown in (1), modified from (Xu & Schmitt 2025b). More recent experimental work has argued that such judgments do not reflect a special grammatical property of Mandarin, but instead arise from pragmatic accommodation, particularly when the nominal expression allows flexibility in how the relevant set of affected objects is construed (Xu & Schmitt 2025a, 2024, 2025b). On this view, aspectual interpretation is shaped not only by verbal and aspectual morphology, but also by the interpretation of the direct object and the discourse context.

- (1) a. Lisi chi le na ji kuai binggan, danshi mei chi wan.
 Lisi eat PFV that how.many CL cookie but not eat finish
 ‘Lisi ate those cookies but didn’t finish them.’

The present study builds on this line of work by examining how grammatical aspect and referential form jointly affect speakers’ evaluation of sentenceevent matches in Mandarin. We focus on two contrasts: perfective *le* versus progressive *zai*, and definite (*zhe*+CL+N) versus indefinite (*yi*+CL+N) direct objects. Unlike previous studies, which have primarily relied on truth-value

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judgment tasks and contrasts involving plural numerals or demonstratives, we employ a naturalness judgment task and investigate singular definite and indefinite noun phrases. This allows us to probe acceptability and to isolate how different types of nominal expressions interact with aspectual viewpoint in the interpretation of event completion.

In addition, we situate the Mandarin system in a cross-linguistic perspective by comparing it to English, where indefinites are typically realized by the article *a(n)* rather than by a numeral-based expression. Our pilot data suggest that in English, aspectual viewpoint strongly conditions judgments, while definiteness plays little role. This raises the question of whether the same pattern holds in Mandarin, where indefinite expressions are morphologically and semantically tied to numeral+classifier structure. If so, differences between the two languages may reveal how nominal encoding of quantity and individuation contributes to aspectual interpretation.

Our results show that aspect is indeed the primary factor shaping judgments, but they also reveal a systematic interaction between aspect and referential form. In particular, indefinite expressions pattern differently from definite ones under the progressive, suggesting that Mandarin numeral+classifier indefinites may introduce constraints on event construal that are not present in English. These findings contribute to a growing body of work arguing that aspectual interpretation is sensitive not only to verbal and aspectual structure, but also to the internal semantics of nominal expressions and their interaction with pragmatic inference.

The remainder of the paper is structured as follows. Section 2 introduces the key theoretical ingredients underlying our study, including telicity, grammatical aspect, and referential form in Mandarin. Section 3 reviews recent experimental work on event completion and non-culmination effects, highlighting open questions that motivate the present study. Section 4 presents our hypotheses. Section 5 describes the experimental design, materials, and procedure, and Section 6 outlines the statistical analysis. Section 7 reports the results. Section 8 discusses the implications of the findings for theories of aspectual interpretation and cross-linguistic variation, and concludes with directions for future research.

2. Ingredients in our study. Before introducing our study and its motivations, we first outline the key concepts necessary for understanding it.

2.1. **TELICITY.** Lexical aspect is a property of the verb phrase. A central dimension of lexical aspect is telicity, which concerns whether an event is understood as having an inherent endpoint (Comrie 1976; Verkuyl 2021). Telic events are characterized by an inherent endpoint, whereas atelic events lack such an endpoint. This contrast is illustrated in (2).

- (2) a. Mary ate three apples.
b. Mary danced.

Eating three apples encodes a natural endpoint at which the three apples are completely consumed, and is therefore telic. By contrast, dancing does not entail any inherent endpoint; in principle, the event can continue indefinitely, and is thus atelic.

Importantly, telicity is not determined by the verb alone but arises compositionally from the verb phrase, often influenced by properties of the object, such as definiteness, quantity, or boundedness (Verkuyl 1972, 1993). This distinction plays a key role in how events are interpreted across languages, particularly in interaction with grammatical aspect. We will restrict the present

study to incremental theme verbs of creation, which have been the most widely studied in experiments of this type and provide clear start and endpoints (Xu & Schmitt 2025a, 2024, 2025b; Ogiela 2007; Ogiela et al. 2014).

2.2. GRAMMATICAL ASPECT. Grammatical aspect concerns the encoding of viewpoint aspect on the verbal predicate, that is, the way in which a situation is temporally presented relative to a reference interval (Comrie 1976). A basic distinction is drawn between perfective and imperfective aspect. Perfective aspect presents a situation as a bounded whole, viewed from an external perspective, without internal temporal structure being made relevant at the reference time. Imperfective aspect, in contrast, presents a situation from an internal perspective, making reference to some proper subpart of the event rather than to the event as a complete whole. The progressive, a subtype of imperfective aspect (Comrie 1976; Deo 2020), presents an event as ongoing at the reference time and typically selects a pre-culmination stage. Experimental studies therefore often contrast the progressive/imperfective with the perfective (e.g., Kazanina & Phillips 2007; Zeng et al. 2021; Becker et al. 2013), since it does not entail event completion and is well suited for probing how aspect interacts with culmination.

In Mandarin, the progressive is marked by the preverbal particle *zai*. Like the English progressive, *zai* can occur with past, present, and future temporal reference, as illustrated in (3). When no explicit temporal expression is provided, the sentence is normally interpreted as present progressive, as in (3a). In all cases, the progressive indicates that the event is ongoing and does not entail completion of the letter-writing event. However, unlike English, the use of *zai* with future reference typically requires a specific future reference time, as shown in (3c-d). This restriction does not arise with present or past reference, where *zai* can be used without an explicit temporal anchor.

- (3) a. Lisi *zai* xie xin.
Lisi PROG write letter
'Lisi is writing a letter.'
- b. Lisi *ganggang zai* xie xin.
Lisi just.now PROG write letter
'Lisi was writing a letter just now.'
- c. Lisi *mingtian de zhe ge shihou yinggai zai* xie xin.
Lisi tomorrow DE this CL time should PROG write letter
'Lisi should be writing a letter at this time tomorrow.'
- d. *Lisi *mingtian zai* xie xin.
Lisi tomorrow PROG write letter
Int. 'Lisi is writing a letter tomorrow.'

The perfective marker in Mandarin that we choose to test is postverbal *le*¹. Like *zai*, it does

¹ The property of postverbal *le* is still under debate. Early work on Mandarin *le* has often treated it as a perfective marker, typically associated with the completion or termination of an event and, in many cases, with a past interpretation (e.g., Comrie 1976; Li & Thompson 1989; Mangione & Li 1993). Against this tradition, Liu (1988), Lin (2003), and others argue that *le* is also compatible with present continuative readings in certain atelic predicates. For instance, Lin (2003) proposes that *le* is an event realization operator indicating that a relevant subpart of an event is realized within the topic time. The current study concerns only telic predicates, thus we treat *le* as a perfective

not encode tense. The temporal interpretation of a clause with *le* is determined by context and can refer to past, present, or future reference times, as illustrated by (4). When *le* is used with future reference, a specific completion boundary must be made explicit; otherwise, the sentences sound odd, as shown in (4c-d).

- (4) a. Lisi zuotian xie le xin.
Lisi yesterday write PFV letter
'Lisi wrote a letter.'
- b. Lisi xie le xin.
Lisi write PFV letter
'Lisi has written a letter.'
- c. Lisi mingtian xie le xin jiu zou.
Lisi tomorrow write PFV letter then leave
'Tomorrow Lisi leaves after he finishes writing a letter.'
- d. *Lisi mingtian xie le xin.
Lisi tomorrow write PFV letter
Int. 'Lisi will finish writing a letter tomorrow.'

Given the complexities associated with using aspectual markers under future reference, and to facilitate the presentation of visual stimuli, the present study adopts past reference contexts for testing.

2.3. REFERENTIAL FORM. Mandarin noun phrases do not encode definiteness through articles, but the contrast between demonstrative+classifier+noun sequences and numeral+classifier+noun sequences plays a central role in distinguishing definite and indefinite interpretations. Demonstrative phrases of the form like *zhe* ('this')+CL+N typically receive a definite, referential reading and presuppose that the referent is identifiable in the discourse.

- (5) a. Lisi xie le zhe feng xin.
Lisi write PFV this CL letter
'Lisi wrote this letter.' \rightsquigarrow There is an identifiable letter.
- b. Lisi mei xie zhe feng xin.
Lisi not write this CL letter
'Lisi didn't write this letter.' \rightsquigarrow There is an identifiable letter.

In contrast, numeral-classifier phrases like *yi* ('one')+CL+N, canonically introduce an indefinite referent and are commonly used to present new discourse entities. When the numeral is *yi* ('one'), it can be phonologically null, usually with no change in meaning.

marker.

- (6) a. Lisi xie le yi feng xin.
Lisi write PFV one CL letter
'Lisi wrote a letter.'
- b. Lisi xie le feng xin.
Lisi write PFV CL letter
'Lisi wrote a letter.'

However, under the progressive aspect, omitting *yi* reduces the naturalness of the sentence. Previous work has suggested that Mandarin V+CL+N constructions may favor a telic construal (Bisang 2010). The degraded acceptability of (7b) may therefore arise from a mismatch between the ongoing interpretation contributed by *zai* and the completion-oriented construal associated with V+CL+N. This mismatch does not arise in the V+*yi*+CL+N construction. Accordingly, the present study uses target sentences in the V+*yi*+CL+N form.

- (7) a. Lisi zai xie yi feng xin.
Lisi PROG write one CL letter
'Lisi is writing a letter.'
- b. ??Lisi zai xie feng xin.
Lisi PROG write CL letter
Int. 'Lisi is writing a letter.'

3. Recent experimental works. Xu & Schmitt (2025b) examine the Mandarin non-culmination effect through an online truth value judgment task with adult native speakers. Participants judged telic descriptions of visual complete and incomplete events, with the experiment manipulating object determiner type (numeral 'three' vs. demonstrative), verb type (consumption verb vs. creation verb), and the presence of verbal *le* (8). The incomplete event is exemplified in Fig.1 where the third object is always left not completely consumed (or created, depending on the verb being tested). The key finding is that judgments are driven by determiner type, not by verb class or by *le*. Specifically, incomplete events were rejected with numeral objects but accepted much more often with demonstratives. The authors therefore reject analyses that locate non-culmination in the lexical semantics of Mandarin verbs or in a special non-culminating meaning of *le*. They instead propose a pragmatic account, according to which demonstratives facilitate contextual accommodation of the object set, yielding apparent non-culminating readings.

- (8) Ta chi- $\{le, \emptyset\}$ $\{na\text{-}ji\text{-}kuai, san\text{-}kuai\}$ binggan hou, jiu qu gan bie-de shi
3SG eat- $\{LE, \emptyset\}$ $\{that\text{-}how.many\text{-}CL, three\text{-}CL\}$ cookie after then go do other thing
le.
LE
'After she ate $\{those, three\}$ cookies, she went to do something else.'

Xu & Schmitt (2024) reexamine the Mandarin non-culmination effect by a truth value judgment task. In their new experiment, when all three objects were only partially affected rather than just the third one being incomplete, as exemplified in Fig. 2, the earlier determiner-type effect

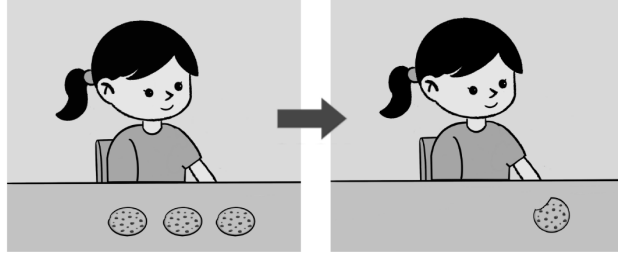


Figure 1. Sample stimulus in Xu & Schmitt (2025b)

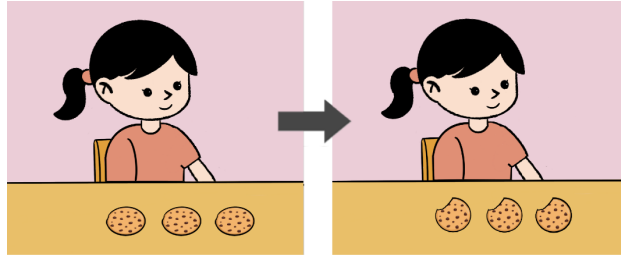


Figure 2. Sample stimulus in Xu & Schmitt (2024)

disappeared. Speakers accepted sentences with numeral objects and demonstrative objects at similar rates. In addition, sentences with *le* were rejected more often in incomplete-event contexts, suggesting that some speakers associate *le* with a stronger result interpretation. The authors conclude that non-culmination judgments arise from the interaction of aspectual composition with contextual interpretation, rather than from a dedicated grammatical mechanism in Mandarin.

To sum, the works reviewed above show that judgments about event completion in Mandarin are sensitive not only to aspectual marking but also to the interpretation of the object DP and to the visual configuration of the event, supporting a pragmatic and context-dependent account of the non-culmination effect. However, the existing studies leave open several questions about how speakers evaluate sentence-event mismatches. First, previous experiments primarily relied on truth value judgment tasks, which require participants to decide whether a sentence is true or false of a given situation. When the mismatch between the sentence and the event involves felicity or pragmatic appropriateness rather than strict truth conditions, such tasks may force categorical rejections that do not fully reflect speakers' intuitions. Second, earlier work mainly examined contrasts between demonstratives and numerically explicit plural objects (e.g., three cookies), together with the presence or absence of *le*, leaving it unclear whether the same patterns arise with other referential contrasts such as definite vs. indefinite singular DPs, and with a viewpoint contrast such as perfective vs. progressive. Furthermore, it remains to be seen whether English and Mandarin function the same way in this regard. Notably, the Mandarin indefinite construction is fundamentally numeral based, while the definite is conveyed through a demonstrative. Since aspectual composition is sensitive to properties of the direct object, it may be the case that English and Mandarin speakers have different language-mediated interpretations in the same visual context. To address these issues, the present study employs a binary naturalness judgment task instead of a truth-value task, and tests the interaction of perfective vs. progressive aspect, definite vs. indefinite objects, and complete vs. incomplete events, in order to examine how aspectual marking, referential form, and event completion jointly affect speakers' evaluation of sentence-

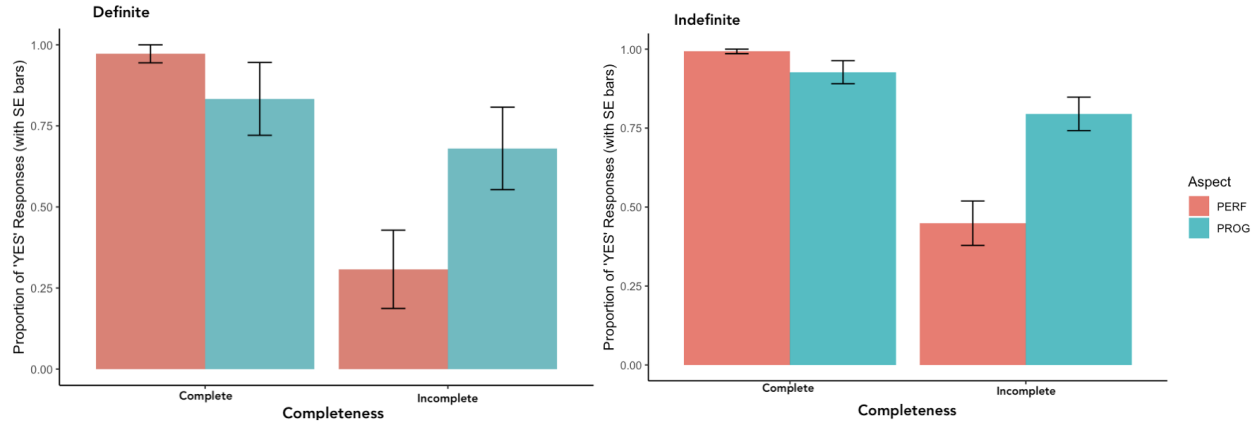


Figure 3. Previously collected English data: Mean proportion of yes responses by aspect (perfective vs. progressive) and event completion (complete vs. incomplete), separated by definiteness: definite (left) and indefinite (right). Error bars represent 1 SE.

event matching.

4. Hypothesis. A previous English pilot study conducted by the author used a paradigm parallel to the one implemented in the present study. In the pilot study, participants were tasked with putting together puzzle pieces depicting various animals. The participants were either allowed to complete the puzzle or were interrupted halfway through the puzzle-solving process. Then, participants were asked to evaluate test sentences on whether they were accurate descriptions of the situation in a modified truth value judgment task. The test sentences varied by aspect (progressive or simple past/perfective) and whether the direct object was definite or indefinite. Examples of the test items used are given in (9):

- (9) a. You made the/a bunny. perfective
 b. You were making the/a bunny. progressive

The results (Fig. 3) suggest that English speakers accept the perfective+definite sentences roughly at ceiling as descriptions of complete events, but largely reject these same descriptions in incomplete puzzle contexts, much like what was observed in Xu & Schmitt (2025a) for Mandarin. The same is true of the (perfective) simple past when paired with indefinite direct objects. When we look at the results for the progressive, we see that they remain relatively high in both complete and incomplete situations. This likely reflects the fact that the progressive does not entail event culmination and is therefore compatible with both ongoing and completed interpretations. Crucially for the present study, it appears that English speakers do not find much of a contrast between the definite and the indefinite in these contexts. That is, there does not appear to be any effect of determiner type, and indeed, the pattern is strikingly similar when comparing the definite determiner results (Fig 3, left) with the indefinite determiner results (Fig 3, right).

Based on this prior work, simple past-marked telic predicates should be preferred as descriptions of completed events, and past progressive-marked telic predicates should be approximately equally acceptable regardless of event completion. In addition, the (in)definiteness of the direct object should not be a significant factor for the evaluation of these events.

Therefore, given both the English pattern and prior work on Mandarin event culmination, the present study hypothesizes that aspectual viewpoint will be the primary factor shaping acceptability judgments. Specifically, perfective-marked telic predicates are expected to be judged more natural for complete events than for incomplete events, whereas progressive-marked telic predicates are expected to be less sensitive to event completion and may be judged similarly across complete and incomplete events. Accordingly, we predict an interaction between aspect and completion, such that the effect of completion will be stronger in the perfective than in the progressive condition. By contrast, definiteness of the direct object is not expected to have a robust effect on judgments. If the English pilot generalizes to Mandarin, both definite and indefinite singular objects should pattern similarly, with no strong main effect of definiteness and no substantial interaction between definiteness and completion.

5. Method.

5.1. PARTICIPANTS. 75 native speakers of Mandarin Chinese participated in the study. Participants were recruited online and were primarily young adults studying in universities in Beijing, China. All reported Mandarin as their first language and reported no history of language-related disorders. Each participant gave informed consent and received ¥1 as compensation.

5.2. DESIGN. Each participant was asked to judge the naturalness of sentence-picture pairs in a within-subject design. The critical manipulation crossed three two-level factors:

- Aspect: progressive *zai* vs. perfective *le*
- Referential form: indefinite *yi* + classifier + noun vs. definite *zhe* + classifier + noun
- Visual completion: complete object vs. incomplete object

In total, each participant judged 8 trials.

The predicates were creation verbs combined with a direct object, including *pin* ‘to put pieces together’ and *feng* ‘to sew’. The visual stimuli depicted toy-making events, including conditions in which the object on the table appeared either complete or incomplete.

5.3. MATERIALS AND PROCEDURE. Participants first read a short context setting up an event in which the addressee had been engaged in an activity involving assembling LEGO-like materials or sewing a fabric toy. They were then shown a visual stimulus depicting either a completed or incomplete object. Finally, they saw one of the four types of test sentences and judged whether it sounded natural or unnatural in the context by choosing between “natural” and “unnatural” two options.

The four test sentence types are shown in (10). The sample visual stimuli are illustrated in Figure 4 and Figure 5.

- (10) a. progressive *zai* & indefinite *yi*
Ni ganggang zai feng yi ge bu wawa!
You just.now PROG sew one CL fabric doll
‘You were sewing a fabric doll just now!’

今天休息日, 你拿出了乐高积木。
 过了一会, 你累了, 于是躺在沙发上开始看电视。
 这时, 妹妹玛丽回家了, 她问你: 你刚刚在干什么呀?

然后她看到桌子上:



你刚刚在拼这只熊猫!

妹妹的话自然吗?

今天休息日, 你拿出了乐高积木。
 过了一会, 你累了, 于是躺在沙发上开始看电视。
 这时, 妹妹玛丽回家了, 她问你: 你刚刚在干什么呀?

然后她看到桌子上:



你刚刚拼了这只熊猫!

妹妹的话自然吗?

Figure 4. Sample stimuli (Context: *Today is your day off, and you took out the Lego blocks. After a while, you got tired, so you lay on the couch and started watching TV. At this moment, your younger sister Mary came home. She asked you: "What were you doing just now?" Then she saw on the table: [PIC COMPLETE/INCOMPLETE]. Target sentence: [left] You were assembling this panda just now! [right] You assembled this panda just now! Question: Is the sister's utterance natural?*)

- b. progressive *zai* & definite *zhe*
 Ni ganggang zai pin zhe zhi xiongmao!
 You just.now PROG assemble this CL panda
 'You were assembling this panda just now!'
- c. perfective *le* & indefinite *yi*
 Ni ganggang feng le yi ge bu wawa!
 You just.now sew PERF one CL fabric doll
 'You sewed a fabric doll just now!'
- d. perfective *le* & definite *zhe*
 Ni ganggang pin le zhe zhi xiongmao!
 You just.now assemble PERF this CL panda
 'You assembled this panda just now!'

6. Data Analysis. Participants' binary naturalness judgments were analyzed using a generalized linear mixed-effects model with binomial error distribution and logit link, implemented in

今天天气不好,你打算待在家里。你拿出了针、线、棉花和布。

过了一会儿,你累了,于是在跑步机上开始运动。

这时,妹妹小美回家了。她问你:你刚刚在干什么呀?

然后她看到桌子上:



你刚刚在缝一个布娃娃!

妹妹的话自然吗?

今天天气不好,你打算待在家里。你拿出了针、线、棉花和布。

过了一会儿,你累了,于是在跑步机上开始运动。

这时,妹妹小美回家了。她问你:你刚刚在干什么呀?

然后她看到桌子上:



你刚刚缝了一个布娃娃!

妹妹的话自然吗?

Figure 5. Sample stimuli (Context: *The weather is bad today, so you plan to stay at home. You took out a needle, thread, cotton, and cloth. After a while, you got tired, so you started exercising on the treadmill. At this moment, your younger sister Xiaomei came home. She asked you: "What were you doing just now?" Then she saw on the table: [PIC COMPLETE/INCOMPLETE]. Target sentence: [left] You were sewing a fabric doll just now! [right] You sewed a fabric doll just now! Question: Is the sister's utterance natural?*)

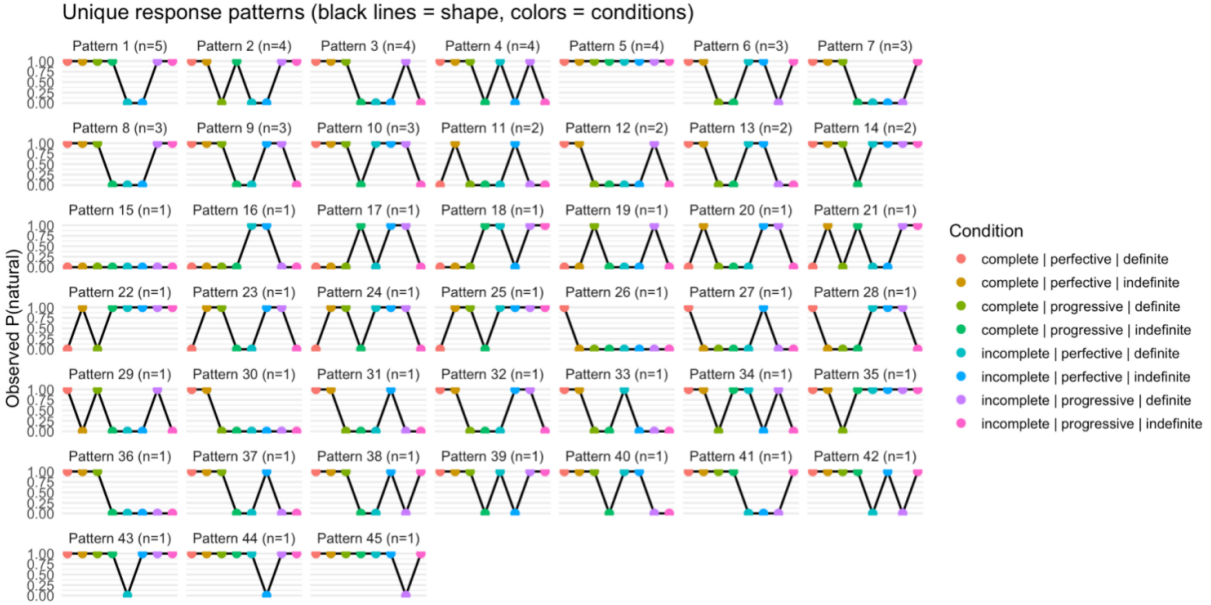


Figure 6. Individual response patterns by participant. Each panel represents a unique response profile across conditions, with lines indicating response shape and colors corresponding to condition (aspect referential form completion). The number of participants exhibiting each pattern is indicated in parentheses. For visualization purposes, condition order has been standardized across panels, although presentation order was randomized in the experiment.

R using the lme4 package (Bates et al. 2015). The model included Referential form (*zhe* ‘this’ + CL vs. *yi* ‘one’ + CL), Completion (complete vs. incomplete), and Aspect (perfective vs. progressive), together with all interactions, and a random intercept for Subject. The model was fit by maximum likelihood. There were 600 observations from 75 participants. The subject-level random intercept showed non-trivial variability (variance = 0.54, $SD = 0.73$), indicating that participants differed in their overall tendency to judge sentences as natural (Fig 6).

7. Results. Figure 7 below shows the overall results of the survey. The model revealed a significant main effect of Completion ($\beta = -2.13, SE = 0.41, z = -5.20, p < .001$), with incomplete trials receiving fewer natural judgments than complete trials. There was also a significant main effect of Aspect ($\beta = -1.21, SE = 0.41, z = -2.99, p = .003$), with progressive sentences judged less natural overall than perfective sentences. The main effect of Referential form was not significant ($\beta = 0.46, SE = 0.48, z = 0.95, p = .34$).

Turning to interactions, there was no significant interaction between Referential form and Completion ($\beta = -0.09, SE = 0.60, z = -0.16, p = .875$). However, the model revealed two significant two-way interactions. First, Completion interacted significantly with Aspect ($\beta = 2.45, SE = 0.55, z = 4.48, p < .001$). Second, Referential form also interacted significantly with Aspect ($\beta = -1.82, SE = 0.61, z = -3.01, p = .003$). The three-way interaction among Referential form, Completion, and Aspect was not significant ($\beta = 0.52, SE = 0.78, z = 0.67, p = .504$).

Given the significant Completion \times Aspect interaction, post-hoc pairwise comparisons were carried out using estimated marginal means. Within the complete condition, perfective sentences

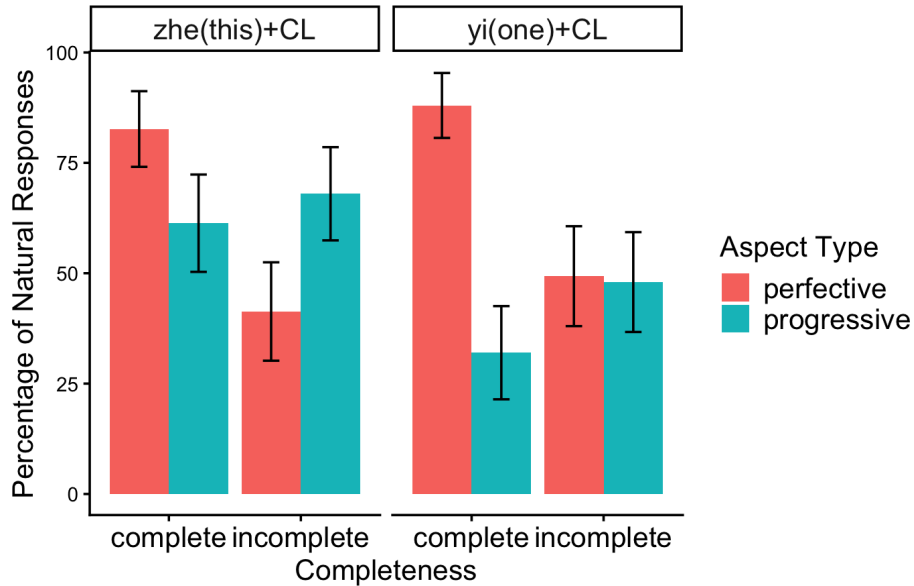


Figure 7. Mean percentage of natural responses by aspect (perfective vs. progressive), referential form (*zhe*+CL vs. *yi*+CL), and event completion (complete vs. incomplete). Error bars represent 95% confidence intervals (CI).

were judged significantly more natural than progressive sentences (log-odds difference = 2.12, $SE = 0.31$, $z = 6.85$, $p < .001$). Within the incomplete condition, the pattern reversed, with progressive sentences being preferred to perfective sentences, as reflected in a significant negative contrast for perfective minus progressive (log-odds difference = -0.59 , $SE = 0.25$, $z = -2.35$, $p = .019$). However, since the model also revealed a significant Referential form \times Aspect interaction, more fine-grained comparisons by Referential form and Completion are more informative.

These cellwise comparisons showed that in the complete condition, perfective was preferred to progressive for both '*zhe*(this)+CL' form (log-odds difference = 1.21, $SE = 0.41$, $z = 2.99$, $p = .003$) and '*yi*(one)+CL' form (log-odds difference = 3.04, $SE = 0.46$, $z = 6.59$, $p < .001$). In the incomplete condition, the pattern differed across referential forms. With '*zhe*(this)+CL' form, progressive was preferred to perfective (log-odds difference for perfective minus progressive = -1.24 , $SE = 0.36$, $z = -3.42$, $p < .001$). With '*yi*(one)+CL' form, by contrast, there was no reliable difference between the two aspects (log-odds difference = 0.06, $SE = 0.35$, $z = 0.17$, $p = .862$).

To sum, perfective is preferred in visual complete events. For incomplete events, progressive is preferred only in the sentences with '*zhe*(this)+CL' form; in the '*yi*(one)+CL' form condition, neither aspect is preferred. At the same time, because the three-way interaction was not significant, these differences across referential forms should be interpreted cautiously. In other words, the cellwise comparisons suggest that referential form may shape the aspectual contrast in incomplete-event descriptions, but the present data do not provide statistical support for a reliable three-way interaction.

8. Discussion. The results partially support our hypotheses. As predicted, aspectual viewpoint emerged as the primary factor shaping judgments: perfective descriptions were preferred for

complete events, and aspect significantly interacted with completion. The hypothesis that definiteness would not exert a robust independent effect was also supported, insofar as there was no main effect of referential form and no interaction between referential form and completion. However, the results departed from our predictions in two respects. First, progressive-marked predicates were not simply equally acceptable across complete and incomplete events, but instead patterned in slight opposition to perfective. Second, referential form did interact significantly with aspect, indicating that definiteness was not entirely neutral in the current design.

The dispreference for indefinite objects with the progressive may be attributed to the transparently numeral-like status of such expressions. Previous work has shown that combining numeral+classifier objects with the progressive can reduce sentence acceptability (Smith 2013) (11). Smith argues that numeral+classifier objects introduce a bounded event description.

- (11) #*Ta zai xie liang feng xin.*
 he PROG write two CL letter
 ‘He is writing two letters.’

Although (7a) shows that the progressive is fully compatible when the numeral position is filled with *yi* (‘one’), we suspect that *yi*+CL may be interpretively ambiguous. It may be construed either as an indefinite that introduces a new discourse referent or as a numeral that specifies quantity, especially in the current design, where, without audio stimuli, participants were more likely to impose a specific prosodic structure that biases them toward the number-related reading. Crucially, when *yi*+CL receives a cardinal interpretation, as suggested by Smith (2013), its combination with the progressive can reduce acceptability. This is further supported by individual variation in our data: 78.7% of participants showed consistent judgments in the progressive + indefinite conditions.

This explanation is also compatible with the findings of Xu & Schmitt (2025a, 2024), which show that adult Mandarin speakers are significantly more likely to reject descriptions of incomplete events with telic predicates containing a numeral than those containing a demonstrative. More broadly, this account helps explain the cross-linguistic contrast: English indefinites are largely compatible with the progressive, whereas the corresponding Mandarin construction is significantly degraded. As shown in Section 4, the English results reveal a pattern associated with the indefinite article *a*, but not with the numeral *one*. Moreover, *a* cannot freely assume a strong cardinal interpretation. Based on this pilot survey, further work should control the interpretation of *yi*+CL+N to test our hypothesis.

It is worth noting that our proposal may not generalize outside of the relatively narrow linguistic context we have tested here. In particular, it is possible that the patterns discussed here are only present in contexts with past temporal reference where the utterance time follows the event time. Our conclusion may not actually extend to present progressive cases where the event time truly overlaps the utterance time, as rejected by the perfectly natural (7a).

In all, we find that the results conform to our expectations about speaker’s judgements of perfective (*le*), in line with the findings of Xu & Schmitt (2025a, 2024). Interestingly, the findings of this study also point to a considerable difference between Mandarin and English speaker’s judgements of event descriptions as they relate to the interaction of grammatical aspect and definiteness. We found that, contrary to our expectations, indefinite direct objects in Mandarin pro-

gressive descriptions of incomplete events are judged as less natural than if a demonstrative was used instead. This reflects a relatively understudied phenomenon requiring further research.

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